

REMARKS

Claims 1-11 are all the claims presently pending in the application. New claims 10 and 11 are added. Claims 1-4 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Akatsu et al. (U.S. Patent No. 6,496,862), further in view of Kobayashi et al. (U.S. Patent No. 6,144,411). Claims 5-7 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Akatsu et al. Claims 8 and 9 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Akatsu et al., further in view of Ho (U.S. Patent No. 4,747,130).

These rejections are respectfully traversed in view of the following discussion.

I. THE CLAIMED INVENTION

As described in the specification and claimed, for example by claim 1, the present invention is directed to a network switching system wherein stream data transferred on a serial bus are exchanged through a gateway between an outside line and an extension node, or between a first extension node and a second extension node.

At least one extension node includes a control/memory unit for storing physical identifiers and telephone numbers of the gateway node and extension nodes and for controlling the network, an asynchronous interface, for selecting the extension node and controlling a switching timing, connected with said control/memory unit, and a rate conversion unit for converting data rate of the stream data in the network into that in the outside line, or converting the other way around, and an isochronous

interface, for transmitting and receiving the stream data, connected with the rate conversion unit.

An advantage of the present invention is that it provides a low cost method to incorporate a telephone system into the existing capability of the serial IEEE 1394 bus in the environment of a home entertainment system. The conventional systems use the telephone interface for interconnection to the Internet for a PC but fails to teach or suggest this expansion to use extension node(s) as potentially incorporating telephone capability, let alone the capability of having a plurality of such telephone extension nodes.

The present invention thereby provides the advantage of low cost switching equipment for telephone voice and or video, in addition to its customary deployment as a distribution system for interconnecting computers and computer peripheral devices such as printers or audio/video system inteconnections, while simultaneously taking advantage of the capability for reducing the number of interconnect wires and providing good quality audio and "plug and play" capability.

II. THE PRIOR ART REJECTIONS

The Examiner alleges that US Patent 6,496,862 to Akatsu et al. renders obvious the present invention as defined by claims 5-7, renders obvious the invention as defined by claims 1-4 when combined with US Patent 6,144,411 to Kobayashi et al., renders obvious the invention as defined by claims 8 and 9 when combined with US Patent 4,747,130 to Ho.

However, the rejection of record seems to overlook a crucial characteristic difference between Akatsu and the present invention. The purpose of Akatsu is that of remote monitoring and control of the various devices in the network (e.g., see title, abstract, and claims) and using the 1394 bus for video data to the television 608.

In contrast, the present invention teaches using the extension nodes as components of a telephonic system. There is no suggestion in Akatsu to use the extension nodes as a telephone interface. The telephone interface 628 shown in Figure 6 of Akatsu is merely a telephone line over which the control/monitoring signals can be transmitted and/or for connecting PC 524 to the Internet. This use of an external telephone line to receive/transmit data is an entirely different concept from that of the present invention in which the extension nodes can serve as a telephone by selectively incorporating a microphone and speaker.

Since Akatsu does not consider the extension nodes as potential telephone sets, the home gateway 504 disclosed therein has no need to be able to interconnect the extension nodes for telephone interconnection, based on identification as telephone numbers. Therefore, in spite of the Examiner's characterization, there is no capability in the home gateway 504 to save telephone numbers as identification numbers for the extension nodes.

That is, to begin with claim 1, the rejection of record incorrectly attempts to ignore the plain language of the claim, thereby glossing over the details being defined in the claim. More specifically, the limitations of claim 1 expressly refer to the

extension nodes of the system, since the present invention teaches that these extension nodes can serve as telephone terminals.

The Examiner relies on the description at line 55 of column 4 through line 31 of column 6 to correlate the extension nodes (e.g., "exemplary IEEE 1394 node 104") of Akatsu to the independent claim 1 language.

However, nowhere in this description of the extension node 104 is there even a suggestion either of storing telephone numbers or of further modifying extension node 104 to incorporate a rate conversion module, as plainly required by the claim language.

Therefore, even if the peer-to-peer feature of the "exemplary IEEE 1394 node 104" could be modified to include telephone numbers and could be modified to further incorporate a rate conversion unit, such a possibility is irrelevant. The Examiner's characterization that the peer-to-peer feature means that each extension node has an identification number is not at all equivalent to asserting that extension nodes used as telephone terminals are uniquely identified by telephone numbers.

It is also clear to one of ordinary skill in the art that the telephone interface 628 shown in the home entertainment system of Figure 6 would be most likely dedicated to the function of allowing PC 524 to have Internet access. One of ordinary skill in the art understands that the PC terminal 524 is not identified by a telephone number, as would be required in order to satisfy the claim language.

Moreover, relative to the incorporation of a rate conversion unit in the "exemplary IEEE 1394 node 104" of Akatsu, the Examiner overlooks that Akatsu

already accommodates rate conversion, if necessary, in either the interface modules 650, 652, 656, 660, 664 of the gateway 594 (see Figure 6) or, possibly, alternatively, in the TV adapter 604. That is, in Akatsu, there would be no need to further modify the "exemplary IEEE 1394 node 104" to incorporate a rate conversion unit (as allegedly taught by Kobayashi) as described in claim 1 and, therefore, no reasonable motivation to incorporate Kobayashi to provide a rate conversion feature that already exists in Akatsu. Indeed, the Examiner's position is clearly based on hindsight.

Hence, turning to the clear language of claim 1, there is no teaching or suggestion of: "A network switching system wherein stream data transferred on a serial bus are exchanged through a gateway between an outside line and an extension node, or between a first extension node and a second extension node, wherein at least one said extension node comprises: a control/memory unit for storing physical identifiers and telephone numbers of said gateway node and extension nodes and for controlling said network ... a rate conversion unit for converting data rate of said stream data in said network into that in said outside line, or converting the other way around...."

The Examiner introduces Kobayashi for the purpose of demonstrating conversion of stream data rate and Ho for the purpose of demonstrating a common data communication facility connected to all modules. However, neither Kobayashi nor Ho is properly combinable with Akatsu to overcome the deficiencies identified above.

First, Kobayashi likewise fails to teach or suggest using extension nodes as a telephone set. Although Ho does involve a telecommunication system, it does not in any way suggest incorporating a telephone system into a home entertainment system or gateway of Akatsu. Therefore, neither Kobayashi nor Ho is properly combinable with Akatsu, absent impermissible hindsight.

Therefore, claim 1 is fully patentable over Akatsu, and claims 2-4 are patentable even if for no other reason than being dependent on claim 1.

Moreover, the rejection for claim 2 also fails to meet the initial burden of a proper rejection under 35 USC §103(a), as follows. The Examiner states: "*... it would have been obvious to one of ordinary skill in the art at the time of the invention to have a microphone for inputting the stream data and a speaker for outputting the stream data since voice is very well known real time data and an external link to a telephone line suggests telephonic signals.*"

The Examiner's position forgets that the use of telephone interface 628 in Figure 6 of Akatsu is not at all a suggestion for anything except the manner to connect PC 524 to the Internet.

Second, the above statement violates at least the following guideline in the MPEP:

- "*A statement that modifications of the prior art to meet the claimed invention would have been " 'well within the ordinary skill of the art at the time the claimed invention was made' " because the references relied upon teach that all aspects of the claimed invention were individually known in the art is not sufficient to establish a*

prima facie case of obviousness without some objective reasons to combine the teachings of the references" (emphasis in MPEP §2143 itself).

- *"The mere fact that references can be combined or modified does not render the resultant combination obvious unless the prior art also suggests the desirability of the combination"* (emphasis in MPEP §2143 itself).

- *"In determining the differences between the prior art and the claims, the question under 35 U.S.C. 103 is not whether the differences themselves would have been obvious, but whether the claimed invention as a whole would have been obvious"* (emphasis in MPEP §2141.02 itself).

Relative to the rejection for claim 3, the Examiner is attempting to "kludge together" words taken-out-of-context. The stream data take-in unit (buffer) at lines 3-10 of column 7 of Akatsu clearly have nothing to do with conversion rate. The Examiner's attempt to incorporate the rate conversion discussion at lines 58-67 of column 1 and lines 16-29, 50-60 of column 7 of Kobayashi would change the principle of operation of the simple buffers in Akatsu. Therefore, Kobayashi is not properly combinable with Akatsu according the MPEP evaluation guideline: *"The proposed modification cannot change the principle of operation of a reference"* (see MPEP 2143.01).

Relative to the rejection for claim 4, there is no bus manager in either Akatsu or Kobayashi that controls a rate conversion.

Relative to the rejection for claim 5, there is no suggestion in Akatsu, Kobayashi, or Ho to refer to an extension node by telephone number.

Relative to the rejection for claim 6, there is no suggestion whatsoever to incorporate a telephone and a tv set in a single terminal, as described in the claim.

Relative to the rejection for claim 7, this claim refers to the embodiment shown in Figure 12 of the present Application. Akatsu does not show a telephone gateway as part of unit 504 in Figure 6 of that reference.

Relative to the rejection for claim 8, the same comments apply as above for claim 2, since the Examiner merely asserts that the limitation is well known. The Examiner's motivation to combine Ho with Akatsu is merely a description of events in Ho, not a motivation to modify Akatsu to incorporate extension nodes used as telephones.

Relative to the rejection for claim 9, the Examiner merely makes conclusory statements. There is no suggestion whatsoever in Akatsu to use the gateway as the basis for a telephone function, let alone in the manner described in the claim.

For the reasons stated above, the claimed invention is fully patentable over the cited references.

Further, the other prior art of record has been reviewed, but it too, even in combination with Akatsu, Kobayashi, or Ho, fails to teach or suggest the claimed invention.

III. FORMAL MATTERS AND CONCLUSION

The Examiner is understood as either rejecting or objecting to the specification under 35 USC §112, first paragraph, as allegedly not being clear, concise and exact,

and as containing several misspelled words. Applicant believes that the above specification amendments address all of the Examiner's concerns.

The Office Action objects to Figures 13-15. The attached Submission of Drawing Change amends Figure 15 to label it as "Prior Art". Applicant believes the above specification changes address the Examiner's remaining concerns for Figures 13-15.

In view of the foregoing, Applicant submits that claims 1-11, all the claims presently pending in the application, are patentably distinct over the prior art of record and are in condition for allowance. The Examiner is respectfully requested to pass the above application to issue at the earliest possible time.

Should the Examiner find the application to be other than in condition for allowance, the Examiner is requested to contact the undersigned at the local telephone number listed below to discuss any other changes deemed necessary in a telephonic or personal interview. The Commissioner is hereby authorized to charge any deficiency in fees or to credit any overpayment in fees to Attorney's Deposit Account No. 50-0481.

Date: 10/22/03

Respectfully Submitted,



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